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## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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25X1

GENERAL

1. The Komega Works (Zavod Komega) is located at 33 Mironovskaya ulitsa, Stalinskiy Rayon, Moscow. There is an entrance to the works on Mochalskaya ulitsa. Komega is an abbreviation of Kotelno mekhanicheskij gazovoy apparat (sic) (boiler machinery and gas appliances). Rail facilities include Cherkizovo Station on the Moscow Circular Railroad and Sortirovochnaya Station on the Moscow - Ryazan Railroad. Nos. 32 and 34 streetcars run into town.
2. The works belongs to the Ministry of Transport and Heavy Machine-Building and is directly subordinate to the Chief Directorate of Boiler and Turbine Industry (Glavkotloturboprom) of the ministry. The chief directorate is located at 12 Krivokolennyy Pereulok, Moscow.

HISTORY

3. The works was founded in 1818 and produced machinery mainly for the boiler industry. After the Revolution, the works specialized in boiler machinery and gas appliances. Production included boilers (boyler), boiler equipment, water purifiers (vodochistka), gas and air pipes (gazovozdukhoprovod), Meta system gas water heaters (gazovaya kolonka), and Klevtsov system kerosene and wood water heaters. After the Revolution the works was called the Komega Works No. 14 of the Mosmet Trust and in 1934 joined the Glavenergoprom (Chief Directorate of Power Industry) of the People's Commissariat of Heavy Industry.
4. During the war, the works was partially evacuated, and the part remaining in Moscow switched over to the manufacture of munitions and became subordinate to the People's Commissariat for Ammunition. From 1942 to 1948, the director

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25X1

-2-

of the works was Kitov. He is now Chief of the Glavkotloturboprom of the Ministry of Transport and Heavy Machine-Building. In 1944, while the war was still in progress, the works switched over gradually to peacetime production and manufactured a small number of T-2G tractor gas generators and prototypes of mills for grinding coal.

5. After the war, the works no longer produced boilers. In 1945, gas generators T-2G for KHTZ tractors were produced in series, spare parts for air mills (aeromobilnaya melnitsa), and frames for 2TR-2 electric locomotives (small locomotives for mines).
6. In 1946, in conformity with the postwar Five-Year Plan, the works started producing Rezolyutor air mills, ShMA shaft mills (shakhtnaya melnitsa), continuous chain grates (besprovalnaya tsepnaya reshetka -BTSR), chain grates, reducing gears (reduktor) for metallurgical works and electric power stations, TsAGI ventilators, flue gas pumps (dymosos), crude coal feeders (pitatel syrogo uglya), oil appliances, high-and low-pressure water preheaters for turbines, and about 80 different parts for auxiliary boiler and turbine equipment for new and restored electric power stations and large works. The production of tractor gas generators, which was the last gas appliance to be made by the works, ceased in 1948.

#### POSTWAR PRODUCTION

##### Continuous Chain Grates for the Boiler and Turbine Industry

7. On this grate, which is adapted for coal and peat and consists of a conveyor with a firegrate band, fuel is loaded and carried into the furnace combustion chamber, where it is burned and the residue thrown off on leaving the combustion chamber. In grates of this design the bars overlap and leave narrow slits only, which allow the access of air to the fuel and at the same time insure the minimum loss of fuel. Nine types of continuous chain grates are made. In the examples given below, the first set of four figures denotes the width of the grate and the second set of four figures the length of the grate, in both cases in millimeters.
  - a. BTSR 1930/5500: Weight about 19 tons. TR-1 reducing gear weighing 1,300 kgs.
  - b. BTSR 2300/5500: Weight 23 tons. TR-1 reducing gear.
  - c. BTSR 2300/6500: Weight 24.5 tons. TR-1 reducing gear.
  - d. BTSR 3040/5500: Weight 27.5 tons. TR-3 reducing gear weighing 2,800 kgs.
  - e. BTSR 3040/6500: Weight 30 tons. TR-3 reducing gear.
  - f. BTSR 4520/6500: Weight 44 tons. TR-3 reducing gear.
  - g. BTSR 4520/7900: Weight 52 tons. TR-3 reducing gear.

##### Rezolyutor Air Mills (Aeromobilnaya Melnitsa Rezolyutor)

8. These mills are used for preparing powdered fuel, which consists chiefly of poor-quality coal. The fuel is ground by means of blows from rotating beaters and by friction. Two types of mills, Rezolyutor Type A and Rezolyutor Type B, are produced.
  - a. The Rezolyutor Type A mill has a 50-KW electric motor. With medium-quality coal the hourly output of powdered fuel is about 2.5 tons. Consumption of air per hour is about 6,000 cubic meters. Weight of mill is 5,500 kgs. Height of assembled aggregate consisting of coal feeder, grinder, separator, and exhaust is about 5,200 mm.

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25X1

-3-

b. The Rezolyutor Type B has a 90-KW electric motor; output per hour of powdered fuel is about five tons. Consumption of air per hour is about 8,000 cubic meters. Weight of mill is about 7,000 kgs. Height of assembled aggregate 5,400 mm.

Shaft Mills (Shakhtnaya Melnitsa)

9. Shaft mill aggregates (shakhtnyy melnichnyy aggregat-ShMA) are used for preparing powdered fuel. The first set of figures appearing after ShMA denote the diameter of rotor and the second set the length of rotor between the outside edges of the extreme beaters. The following seven types of shaft mills are produced: ShMA 800/391, ShMA 1000/470, ShMA 1000/707, ShMA 1300/944, ShMA 1500/1181, ShMA 1500/1655, and ShMA 1660/2004. The bodies of the mills are made of armor steel sheets, the beater holders of ST-4 steel, and the beaters of 50G2 steel. Some details of three of the mills are given below:

- a. ShMA 800/391: Diameter of shaft: 100mm. Length of shaft: 1,527 mm. Rpm: 960. Number of beaters: 21. Weight of mill without electric motor: two tons. Power of electric motor: 30 KW. The output, which depends on the quality of the coal, is about 2.5 tons per hour with medium rate of grinding of coal of average quality.
- b. ShMA 1300/944: Diameter of shaft: 180 mm. Length of shaft: 2,400 mm. Rpm: 730. Number of beaters: 56. Weight of mill without electric motor: six tons. Power of electric motor: 120 KW. Average output: about ten tons per hour.
- c. ShMA 1500/1655: Diameter of shaft: 200 mm. Length of shaft: 3,475 mm. Rpm: 730. Number of beaters: 126. Weight of mill without electric motor: nine tons. Power of electric motor: 250 KW. Average output at medium grinding: about 20 tons per hour. The shaft of this mill and of those of larger dimensions are hollow inside and are water-cooled.

Crude Coal Feeders (Pitatel Syrogo Uglya -PSU)

10. Crude coal feeders are used for feeding coal into mills. Feeders of the disc type of four categories are produced at the works, as follows:

- a. PSU 600/5: output five tons per hour.
- b. PSU 600/10: output ten tons per hour.
- c. PSU 850/20: output 20 tons per hour.
- d. PSU 850/30: output 30 tons per hour.

Feeders are fitted with electric motors of about three KW. Weight of feeders from 700 to 1,000 kgs.

Ventilators

11. TsAGI axial ventilators. These were designed by the Central Aero-Hydrodynamic Institute i/n Zhukovskiy (Tsentralnyy Aerogidrodinamicheskiy Institut imeni Zhukovskogo). Eight types are produced, including V-8, V-9, V-12, V-14, and VD 125/390, about which some details are given below.

- a. V-8. Output 9,000-17,000 cubic meters per hour. Pressure: 70-285 mm of water column. Rpm: 725-1,450. Input: up to 25 KW. Suction air temperature: 20°C. Weight of ventilator: 675 kgs.
- b. V-9. Output: 12,000-23,000 cubic meters per hour. Pressure: 90-360 mm of water column. Rpm: 725 to 1,450. Input: up to 35 KW. Suction air temperature: 20°C. Weight of ventilator: 880 kgs.
- c. V-12. Output: 28,000-33,000 cubic meters per hour. Pressure: 160-280 mm of water column. Rpm: 725 to 960. Input: up to 39 KW. Suction air temperature: 20°C. Weight of ventilator: 1,110 kgs.

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25X1

-4-

- d. V-14. Output 40,000 cubic meters per hour. Maximum pressure: 195 mm of water column. Rpm: 725. Input: 40 kw. Weight of ventilator: 1,800 kgs.
- e. VD 125/390. Output: 125,000 cubic meters per hour. Maximum pressure: 390 mm of water column. Rpm: 960. Input: 260 KW. Weight of ventilator: 2,600 kgs.

Flue Gas Pumps (Dymosos)

12. The following types are produced: D-9, D-10, D-11, D-12, D-14, D-100/220, D-190, D190-1, D190-2, D250/300 and D300/400. A few details about three of these pumps are given below.
  - a. D100/220. Output: 120,000 cubic meters per hour. Maximum pressure: 220 mm of water column. Rpm: 960. Input: 150 KW. Suction air temperature: 200°C. Weight: 2,400 kgs.
  - b. D-190. Output: 175,000 to 240,000 cubic meters per hour. Pressure: 125-425 mm of water column. Rpm: 730-960. Input: 200-450 KW. Suction air temperature: 200°C. Weight: 9,600 kgs.
  - c. D300/400. Output: 300,000 cubic meters per hour. Maximum pressure: 400 mm of water column. Rpm: 730. Input: 620 KW. Suction air temperature: 200°C. Weight: 16,300 kgs.

Drum and Ball Mills (Barabanno-Sharovaya Melnitsa-BShM)

13. Only small individual orders for these mills are executed. Three types of mills are manufactured with outputs of 10, 15, and 20 tons per hour of powdered fuel using medium-quality coal. Below are some technical details of the BShM-287/470 mill.
  - a. Internal diameter of mill: 2,870 mm. Length of drum: 4,700 mm. Power of electric motor: 400 KW. Output of mill loaded with 33 tons of balls with medium-quality coal is about 15 tons per hour. The interior of the mill is lined with cast armor steel sheets. Balls are also made of cast steel.

T-2G Gas Generators

14. These gas generators were mass-produced in 1946, 1947, and the first half of 1948. About 1,600 gas generators were produced in 1947. This is a wood-block gas generating plant for KhTZ tractors, which are made at the Kharkov Tractor Works. It is composed of a generator, cyclone purifier, cooler, and settling tank. Output is about 105 cubic meters per hour. Weight is about 500 kgs. The gasification chamber was made of carbon steel with 12 mm thick walls..

Tubular Air Preheaters (Trubchatyy Vozdukhopodogrevatel)

15. These are used for drying moist fuels and increasing the efficiency of combustion chambers. Four sizes of preheaters are made between heights of 2,500 and 8,000 mm. The welded tubes average about 50 mm in diameter. An experimental regenerating air preheater similar to the foreign Youngstrem preheater is being built.

High and Low-Pressure Water Preheaters for Turbines

16. These are made in six sizes. The largest is about seven meters long with steam pressure up to 30 atm.

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-5-

Frames (Rama)

17. These are for 2 TR-2 electric locomotives used in mines. These locomotives were series-produced in the works in 1945 and 1946. In 1947, production ceased and was taken up by other factories. Frames produced by the works were shipped to the Moscow Dynamo Works to be equipped with electrical appliances.

Reducing Gears (Reduktor)

18. Special orders are filled for large reducing gears for electric power stations and metallurgical works.

Miscellaneous Production

19. Spare parts for agricultural machinery and consumer goods, chiefly metal bedsteads, are also produced.

OUTPUT

20. Because of the number of different types of articles produced, which amounted to 120, it was not possible to give production figures. However, from information given in a factory stencilled newspaper, the value of production for 1946 was estimated at 22 million rubles and for 1952 at 83 million rubles.

PERSONNEL

21. Following are the chief personnel:

Director: Ivan Stepanovich Kurtynin

Chief Engineer: Goryachkin (fmu). He replaced Bogdanov in 1953.

Chief Technologist: Ivanov (fmu).

Chief Designer: Dumer (fmu). He was awarded a Stalin Prize for designing shaft mill furnaces (shakhtno-melnichnaya topka).

Deputy Chief Designer: Volkov (fmu).

Chief of the Power Supply (Glavnny Energetik): Wolf (fmu).

Chief of the Planning and Production Section: Matskin

Chief of the Technical Section: K. Ivanov (fmu).

Chief of the Technical Control Section: Yegorov (fmu).

22. Approximately 2,700 workers are employed at the works, mainly in three shifts, but in two shifts in some shops.

SHOPS

23. A list of shops at the works follows:

Machine Shop No.1 (Mekhanicheskiy Tsekha No.1)

Machine Shop No.2 (Mekhanicheskiy Tsekha No.2)

Machine Shop No.3 (Mekhanicheskiy Tsekha No.3)

Preparatory Shop (Zagotovitelnyy Tsekha)

Tool Shop (Instrumentalnyy Tsekha)

Forge (Kuznechnyy Tsekha)

Foundries (Liteynyay Masterskiy)

Chain Grate Shop (Tsekha Tsephykh Reshetok)

Rezolyutor Mills Shop (Tsekha Melnits Rezolyutor)

Ventilators and Flue Gas Pumps Shop (Tsekha Ventilyatorov i Dymososov)

Oil Appliances Shop (Tsekha Neftyanoy Apparatury)

Reducing Gear Shop (Tsekha Reduktorov)

Thermic Shop (Termicheskiy Tsekha)

Machine Repair Shop (Tsekha Remontno-Mekhanicheskiy)

Transport Shop (Transportnyy Tsekha)

Electric Shop (Elektrotsekha)

Consumer Goods Shop (Tsekha Shirpotreba)

Shaft Mills Shop (Tsekha Shakhtnykh Melnits)

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-6-

SUPPLIERS OF CASTINGS

24. The works has only small foundries, and consequently all large castings, both steel and iron, are obtained from heavy machine-building works in the Moscow Oblast. Castings for suction and blowing machines are received from the Podolsk Works 1/n Ordzhonikidze, which has a special shop for this type of casting. A large number of castings are obtained from the Venyukovskiy Fittings Works (Venyukovskiy Armatsurnyy Zavod), near Lopasnya Station, which also belongs to the Chief Directorate of Boiler and Turbine Industry of the Ministry of Transport and Heavy Machine-Building. A small number of castings are received from the Noginsk Heavy Machine-Building Works (Noginskiy Mekhanicheskiy Zavod Tyazhelogo Mashinostroyeniya), in which town the Noginsk Fuel Appliance Works (Noginskiy Zavod Toplivnoy Apparatury) is also situated.

CONSUMERS

25. Production is shipped to numerous new and restored thermoelectric power stations and to factories belonging to various industries. Continuous chain grates are sent to most of the coke and chemical plants in addition to other factories. Towns to which production is sent include Minsk, Gomel, Dnepropetrovsk, Dneprodzerzhinsk, Smolensk, Rostov on the Don, Kharkov, Odessa, Kiev, Zaporozhe, Tashkent, Baku, Ufa, and Kuybyshev.

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